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B.Sc. RNLK-/GE1T/21

2021

Zoology

[Animal Cell Biotechnology]

[First Semester]

Paper - GE1T

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

1. Answer any five from the following : 5×2=10
- a) 'Plasmid is a vector'– explain it. 2
 - b) Why endonuclease is called as restriction enzyme? 2
 - c) What is significance of DNA finger printing? 2
 - d) What is monoclonal antibody? 2
 - e) What is significance of ethidium bromide in agarose gel electrophoresis? 2

(Turn Over)

(2)

- f) Write short note on – Taq polymerase. 2
- g) What is the role of acid phosphatase during recombinant DNA technology? 2
- h) Write a short note on – DNA microarray. 2
- 2. Answer any four of the followings : 4×5=20**
- a) Write down the difference between Type-I, Type-II and Type-III endonuclease with suitable example. 5
- b) Briefly describe the dideoxy DNA sequencing method with suitable diagram. 5
- c) Write down the role of SDS, β -mercaptoethanol and bromophenol blue in SDS-PAGE. 2+2+1
- d) Short note on –
- (i) PBR322
- (ii) Palindromic sequence $2\frac{1}{2}+2\frac{1}{2}$
- e) Write the following differences –
- (i) Primary cell culture Vs Secondary cell culture.
- (ii) cDNA library Vs genomic library. 2+3
- f) Briefly describe the steps of recombinant DNA technology with proper diagram. 5

(3)

3. Answer any one out of the followings : 1×10=10

a) What do you mean by PCR? Describe the process of Polymerase chain Reaction and its significance.

1+7+2

b) What is southern blotting? Describe the steps of southern blotting with suitable diagram. 2+8